# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/NGVP/WNo.08/CEMENT/2014-15 Date: 12.02.2014

## TEST REPORT

| | | |
|---|---|---|
| **CLIENT** | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| **AGENCY** | : | **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore. |
| **NAME OF THE WORK** | : | Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore. |
| **REFERENCE** | : | EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014 |
| **SAMPLE ID** | : | CEMENT |
| **SAMPLES SUPPLIED BY** | : | AGENCY |

The results of the tests conducted on the cement sample are as follows:

| Sl.No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) | 30.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) | 175 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) | 480 Minutes | Not More than 600 Minutes |
| 3 | Soundness by the Le-Chatelier method | IS-4031 (Part 3) | 1 mm | Not more than 10 mm |

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M/s. Civil-Tech Consultants & Engineers
# 23/14, 7th Cross, 3rd Stage,
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Assistant Executive Engineer
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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/NGVP/WNo.08/SAND/2014-15 : 12.02.2014

## TEST REPORT ON FINE AGGREGATES
## IS 383-1970 (RA- 2002)

**Client** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

**Agency** : **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore.

**Name of Work** : Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore.

**Reference** : EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014

Date of Testing : 12.02.2014

Material : Fine Aggregates Total Wt. of Aggregates in gms **2000**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Spec.Limits For Zone-II |
|---|---|---|---|---|---|
| 10 | 0 | 0 | 0 | 100 | 100 |
| 4.75 | 76 | 3.80 | 3.80 | 96.2 | 90-100 |
| 2.36 | 264 | 13.20 | 17.00 | 83.0 | 75-100 |
| 1.18 | 498 | 24.90 | 41.90 | 58.1 | 55-90 |
| 600 Micron | 432 | 21.60 | 63.50 | 36.5 | 35-59 |
| 300 Micron | 521 | 26.05 | 89.55 | 10.5 | 8-30 |
| 150 Micron | 142 | 7.10 | 96.65 | 3.4 | 0-10 |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005


Job No.: CTCE/BBMP/NGVP/WNo.08/AGG/2014-15 : 12.02.2014

## TEST REPORT ON COARSE AGGREGATES
## IS 383-1970 (RA- 2002)

**Client** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

**Agency** : **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore.

**Name of Work** : Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore.

**Reference** : EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014

Date of Testing : 12.02.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25150**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Spec.Limits |
|---|---|---|---|---|---|
| 80 | 0 | 0 | 0 | 100 | 100 |
| 40 | 953 | 3.79 | 3.79 | 96.21 | 95-100 |
| 20 | 16287 | 64.76 | 68.55 | 31.45 | 30-70 |
| 10 | 4983 | 19.81 | 88.36 | 11.64 | 10-35 |
| 4.75 | 2495 | 9.92 | 98.28 | 1.72 | 0-5 |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/NGVP/WNo.08/AGG/2014-15 : 12.02.2014

## TEST REPORT ON COARSE AGGREGATES
## IS 383-1970 (RA- 2002)

**Client** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

**Agency** : **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore.

**Name of Work** : Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore.

**Reference** : EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014

Date of Testing : 12.02.2014

Material : 20mm Aggregates

Total Wt. of Aggregates in gms= **5000**

**Tabel - 1**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Spec.Limits |
|---|---|---|---|---|---|
| 40 | 0 | 0 | 0 | 100 | 100 |
| 20 | 184 | 3.68 | 3.7 | 96.32 | 95-100 |
| 10 | 3256 | 65.12 | 68.8 | 31.20 | 25-55 |
| 4.75 | 1354 | 27.08 | 95.9 | 4.12 | 0-10 |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005


Job No.: CTCE/BBMP/NGVP/WNo.08/STEEL/2014-15 Date: 19.02.2014

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Client | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore. |
| Name of the work | : | Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore. |
| Reference | : | EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014 |
| Date of Test | : | 19.02.2014 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 10 | 0.62 | 514 | 557 | 13.25 | O.K | O.K |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/NGVP/WNo.08/STEEL/2014-15 Date: 19.02.2014

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Client | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore. |
| Name of the work | : | Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore. |
| Reference | : | EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014 |
| Date of Test | : | 19.02.2014 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 12 | 0.89 | 517 | 560 | 13.55 | O.K | O.K |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005


Job No.: CTCE/BBMP/NGVP/WNo.08/CUBE/2014-15

24.03.2014

## TEST REPORT ON CONCRETE CUBES

| | |
|---|---|
| Client | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore. |
| Name of the work | : Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore. |
| Reference | : EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014 |
| Sample ID | : RCC Drain Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 24.02.2014 | 24.03.2014 | 8.132 | 471.8 | 20.97 |
| 2 | 24.02.2014 | 24.03.2014 | 8.214 | 483.5 | 21.49 |
| 3 | 24.02.2014 | 24.03.2014 | 8.320 | 498.6 | 22.16 |

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Job No.: CTCE/BBMP/NGVP/WNo.08/CUBE/2014-15

11.04.2014

## TEST REPORT ON CONCRETE CUBES

| | |
|---|---|
| Client | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : **Mr. Ningana Gowda V. Patil,** Contractor, Bangalore. |
| Name of the work | : Construction of CC drains and cement concrete road in Kodigehalli Village in Ward No. 08 (Kodigehalli), Kodigehalli Sub Division, BBMP, Bangalore. |
| Reference | : EE/BTP/BBMP/E-PMT/LOA/9242/13-14 Dated: 28.01.2014 |
| Sample ID | : Road Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 14.03.2014 | 11.04.2014 | 8.215 | 475.8 | 21.15 |
| 2 | 14.03.2014 | 11.04.2014 | 8.298 | 492.5 | 21.89 |
| 3 | 14.03.2014 | 11.04.2014 | 8.347 | 511.7 | 22.74 |

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